Municipal Separate Storm Sewer System (MS4) Year 2 Annual Report

2019 – 2020 Reporting Period

Permit No. VAR040057

In compliance with the "General VPDES Permit for Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems

Department of Transportation and Environmental Services
2900-B Business Center Drive
Alexandria, VA 22314
703.746.6499

October 1, 2020

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General VPDES Permit for Small Municipal Separate Storm Sewer Systems Permit No. VAR040057

Year 2 Annual Report
July 1, 2019 – June 30, 2020

City of Alexandria, Virginia

Submitted by
City of Alexandria
Department of Transportation and Environmental Services
2900-B Business Center Drive, Alexandria, VA 22314

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CERTIFICATION

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Jesse E. Maines	Division Chief, T&ES Stormwater Management	10/1/2020
Name	Title	Date

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General VPDES Permit for Small Municipal Separate Storm Sewer Systems Permit No. VAR040057

Year 2 Annual Report
July 1, 2019 – June 30, 2020
City of Alexandria, Virginia

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ACRONYMS

AWL – Animal Welfare League
BMP – Best Management Practice
C&I – Construction and Inspection
COVID-19 - Novel Coronavirus Disease
CSS – Combined Sewer System
CRM - Customer Relations Management
DEQ – Virginia Department of Environmental Quality
E&SC – Erosion and Sediment Control
EIU – Environmental Industrial Unit
EMO – Environmental Management Ordinance
EPC – Environmental Policy Commission
GI – Green Infrastructure
HOA – Home Owners Association
LID – Low Impact Development
MCM – Minimum Control Measure
MS4 - Municipal Separate Storm Sewer System
NMP - Nutrient Management Plans
NVRC – Northern Virginia Regional Commission
OEQ – Office of Environmental Quality
PCB - polychlorinated biphenyls
PSA - Public Service Announcement
PY – Permit Year
RCPA – Department of Recreation, Parks and Cultural Activities
SEAS - School Environmental Action Showcase
SWCB – State Water Control Board
SWM - Stormwater Management Division
SWPPP – Stormwater Pollution Prevention Plan
T&ES – Department of Transportation and Environmental Services
TMDL – Total Maximum Daily Load
VCA – Veterinary Centers of America
VESCL – Virginia Erosion and Sediment Control Law
VESCR –Virginia Erosion and Sediment Control Regulations
VPDES - Virginia Pollutant Discharge Elimination System
VSMP – Virginia Stormwater Management Program
WQSC – Water Quality Steering Committee
WQWG – Water Quality Work Group

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1 Introduction

On March 12, 2020, Governor Northam "Declares State of Emergency, Outlines Additional Measures to Combat COVID-19" and on March 13, 2020, the President of the United States of America issued the "Proclamation on Declaring a National Emergency Concerning the Novel Coronavirus Disease (COVID-19) Outbreak". These two monumental declarations dramatically shifted the response from local municipalities from "business as usual" to emergency preparedness and disaster response. From the very beginning, the City of Alexandria maintained continuity of operations to provide essential public services, continues to assist in the response, and activated the Emergency Operations Center (EOC) for COVID-19 response. Like most communities, some non-essential City operations were suspended. In-person meetings transitioned to phone-calls, where feasible and in-office meetings and large public gatherings and events were eliminated starting in March. This brought many changes to the annual education and outreach and the amount of materials collected at the Household Hazardous Waste (HHW) facility. In particular, the annual Earth Day event was cancelled; stream clean ups planned for spring and summer were cancelled; the Eco-City Academy (initial launch) was postponed to spring 2021; among other events and activities further described herein.

This past January, the City's Stormwater Management Division (SWM) was contacted by the Virginia Department of Environmental Quality (DEQ) to schedule a routine audit of our MS4 program. Program audits are expected to take place every 5-years and our last audit was in 2015 (conducted with the U.S. Environmental Protection Agency as the lead). Initially DEQ requested the in-person (onsite) audit be scheduled for May; however, the global COVID-19 pandemic impacted this plan. DEQ and the City worked together to re-schedule the audit to take place in-person in June and per held for ½ day after the expiration of the Governor's Executive Order 51. Because of this, the "desktop" evaluation which included the document request was expanded. to. The on-site portion was conducted on June 17th and included visits to several sites across the City. A summary of program changes based on the findings of the audit are anticipated to be summarized in the PY3 annual report.

The City's Alex311 system replaced the previous *Call.Click.Connect* Customer Relations Management (CRM) initiative in February 2020. The new Alex311 system is prominent on the City's main page and subordinate pages. Alex311 is the City of Alexandria's customer service initiative to connect our customers to more than 175 City services in a variety of convenient ways. Connect with Alex311 online, through the mobile app, on Facebook and Twitter, by phone, or in person.

This 2019 – 2020 MS4 Annual Report is prepared by the City of Alexandria (City) Department of Transportation and Environmental Services (T&ES) in accordance with the requirements of the General VPDES (Virginia Pollutant Discharge Elimination System) Permit for Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems (9VAC25-890-40 *et seq.*). The City was originally issued General Permit VAR040057 on July 8, 2003 under the program. DEQ reissued the current five-year permit effective November 1, 2018.

Under the terms of the General Permit, the City has developed a Municipal Separate Storm Sewer System (MS4) Program Plan to implement six minimum control measures aimed at reducing the discharge of pollutants to the "maximum extent practicable." Minimum control measures are:

1. Public Education and Outreach
2. Public Involvement and Participation
3. Illegal Discharge Detection and Elimination
4. Construction Site Stormwater Runoff Control
5. Post-Construction Stormwater Management for New Development and Development on Prior Developed Lands
6. Pollution Prevention and Good Housekeeping for Facilities Owned or Operated by the Permittee within the MS4 Service Area

The General Permit requires that the City submit annual reports no later than October 1st covering the reporting period of the preceding July 1st through June 30th. This annual report covers the period of July 1, 2019 through June 30, 2020. The 2018-2023 General Permit outlines the requirements for the annual report as follows (italicized below):

Part I C 4 The permittee shall summarize revisions to the MS4 program plan as part of the annual report as described in Part I D 2.

Part I D 2 Annual reporting requirements

2. The annual report shall include the following general information:
- *a) The permittee, system name, and permit number;*
- *b) The reporting period for which the annual report is being submitted;*
- *c) A signed certification as per Part III K;*
- *d) Each annual reporting item as specified in an MCM in Part I E; and*
- *e) An evaluation of the MS4 program implementation, including a review of each MCM, to determine the MS4 program's effectiveness and whether or not changes to the MS4 program plan are necessary.*

4. For those permittees with requirements established under Part II A, the annual report shall include a status report on the implementation of the Chesapeake Bay TMDL action plan in accordance with Part II A of this permit including any revisions to the plan.

5. For those permittees with requirements established under Part II B, the annual report shall include a status report on the implementation of the local TMDL action plans in accordance with Part II B including any revisions to the plan. 6.

6. For the purposes of this permit, the MS4 program plan and annual report shall be maintained separately and submitted to the department as required by this permit as two separate documents.

PUBLIC EDUCATION AND OUTREACH (MCM #1), Part I E 1 g
1) *A list of the high-priority stormwater issues the permittee addressed in the public education and outreach program; and*
2) *A list of the strategies used to communicate each high-priority stormwater issue.*

PUBLIC INVOLVEMENT/PARTICIPATION (MCM #2), Part I E 2 f
1) *A summary of any public input on the MS4 program received (including stormwater complaints) and how the permittee responded;*

2) A webpage address to the permittee's MS4 program and stormwater website;
3) A description of the public involvement activities implemented by the permittee;
4) A report of the metric as defined for each activity and an evaluation as to whether or not the activity is beneficial to improving water quality; and
5) The name of other MS4 permittees with whom the permittee collaborated in the public involvement opportunities.

ILLICIT DISCHARGE DETECTION AND ELIMINATION (MCM #3), Part I E 3 d
1) A confirmation statement that the MS4 map and information table have been updated to reflect any changes to the MS4 occurring on or before June 30 of the reporting year;
2) The total number of outfalls screened during the reporting period as part of the dry weather screening program; and
3) A list of illicit discharges to the MS4 including spills reaching the MS4 with information as follows:
(a) The source of illicit discharge;
(b) The dates that the discharge was observed, reported, or both;
(c) Whether the discharge was discovered by the permittee during dry weather screening, reported by the public, or other method (describe);
(d) How the investigation was resolved;
(e) A description of any follow-up activities; and
(f) The date the investigation was closed.

CONSTRUCTION SITE STORMWATER RUNOFF CONTROL (MCM #4), Part I E 4 d
1) If the permittee implements a construction site stormwater runoff program in accordance with Part I E 4 a (3):
(a) A confirmation statement that land disturbing projects that occurred during the reporting period have been conducted in accordance with the current department approved standards and specifications for erosion and sediment control; and
(b) If one or more of the land disturbing projects were not conducted with the department approved standards and specifications, an explanation as to why the projects did not conform to the approved standards and specifications.
(c) Total number of inspections conducted; and
(d) The total number and type of enforcement actions implemented and the type of enforcement actions

POST CONSTRUCTION STORMWATER MANAGEMENT (MCM #5), Part I E 5 i
1) If the permittee implements a Virginia Stormwater Management Program in accordance with Part I E 5 a (1) and (2):
(a) The number of privately owned stormwater management facility inspections conducted; and
(b) The number of enforcement actions initiated by the permittee to ensure long-term maintenance of privately owned stormwater management facilities including the type of enforcement action;
2) Total number of inspections conducted on stormwater management facilities owned or operated by the permittee;

3) A description of the significant maintenance, repair, or retrofit activities performed on the stormwater management facilities owned or operated by the permittee to ensure it continues to perform as designed. This does not include routine activities such as grass mowing or trash collection;
4) A confirmation statement that the permittee submitted stormwater management facility information through the Virginia Construction Stormwater General Permit database for those land disturbing activities for which the permittee was required to obtain coverage under the General VPDES Permit for Discharges of Stormwater from Construction Activities in accordance with Part I E 5 f or a statement that the permittee did not complete any projects requiring coverage under the General VPDES Permit for Discharges of Stormwater from Construction Activities; and
5) A confirmation statement that the permittee electronically reported BMPs using the DEQ BMP Warehouse in accordance with Part I E 5 g and the date on which the information was submitted.

POLLUTION PREVENTION AND GOOD HOUSEKEEPING FOR MUNICIPAL FACILITIES (MCM #6), Part I E 6 q
1) A summary of any operational procedures developed or modified in accordance with Part I E 6 a during the reporting period;
2) A summary of any new SWPPPs developed in accordance Part I E 6 c during the reporting period;
3) A summary of any SWPPPs modified in accordance with Part I E 6 f or the rationale of any high priority facilities delisted in accordance with Part I E 6 h during the reporting period;
4) A summary of any new turf and landscape nutrient management plans developed that includes:
(a) Location and the total acreage of each land area; and
(b) The date of the approved nutrient management plan; and
5) A list of the training events conducted in accordance with Part I E 6 m, including the following information:
(a) The date of the training event;
(b) The number of employees who attended the training event; and
(c) The objective of the training event.

2 General Information

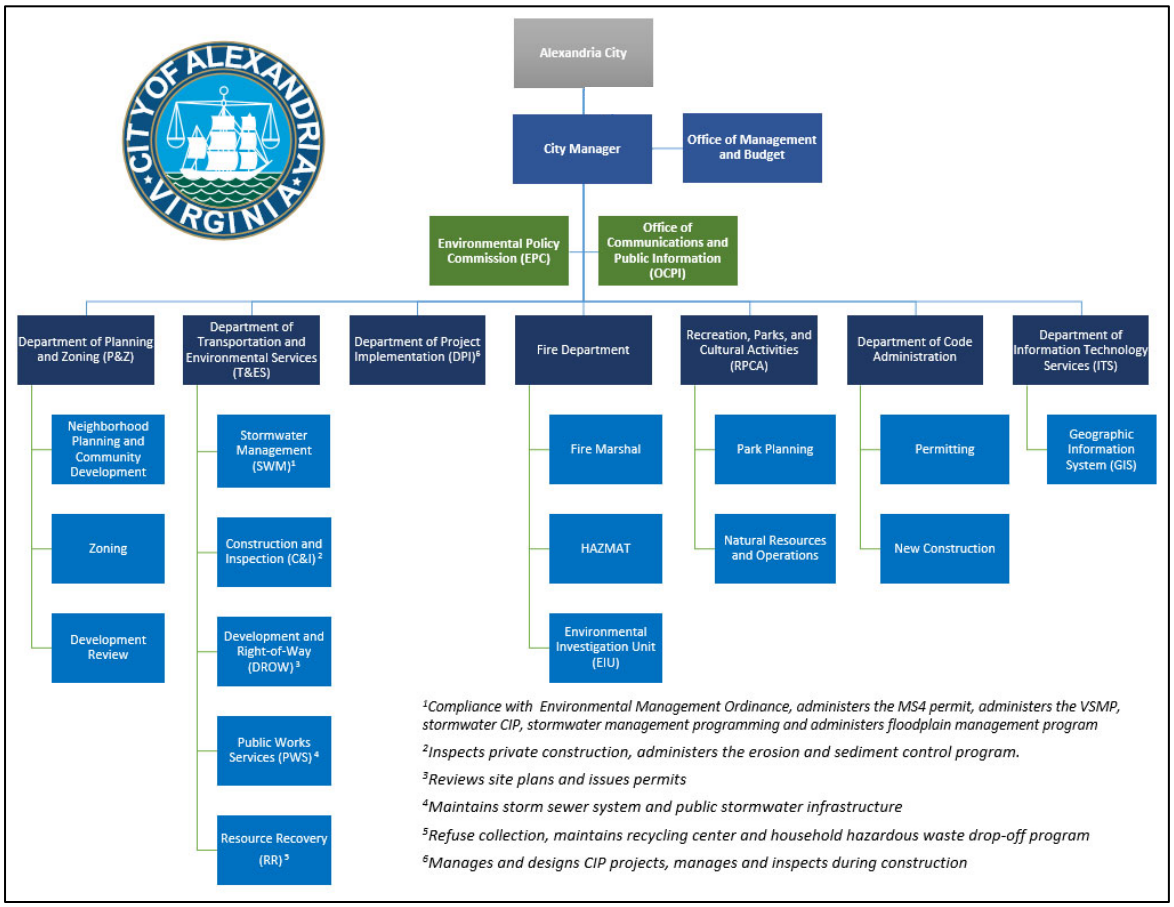
This section provides general information as required in Part I D 2 of the General Permit.

Name of Permittee:	System Name:	Reporting Period:	Permit Number:
City of Alexandria	City of Alexandria MS4	2019 - 2020	VAR040057
Modifications to Roles and Responsibilities: None.			

6th Order HUC:	Potomac River (PL28)	Cameron Run (PL26)	Four Mile Run (PL25)

The organizational chart outlines major stormwater activities and functions divided among several different departments and divisions. Additional information about each department is found in the MS4 Program Plan. In 2016, The City created a separate Stormwater Management Division (SWM) that has the primary responsibility for coordinating permit compliance.

Stormwater Management Organizational Chart – Roles and Responsibilities



3 2019 – 2020 Permit Conditions Compliance Status

The following provides the status of best management practices for each of the six minimum control measures (MCMs) during the 2019 – 2020 reporting period or Permit Year 2 (PY2). The City previously updated the MS4 Program Plan based on the requirements in the 2018-2023 General Permit. This annual report is organized to reflect the City's current MS4 Program Plan, so that the BMPs under each MCM follow the format for the program plan. Each section in this report begins with a summary table describing the task, the implementation year, the measurable goal as described in the City's MS4 Program Plan, and task status. Following the summary table is a more detailed discussion of the implementation status of each task. Additional support materials are found in the appendices.

The City completed the update of the MS4 Program Plan to comply with the 2018-2023 permit requirements on May 1, 2019 and it currently is undergoing updates based on the DEQ audit. The updated 2020 MS4 Program Plan will be included on the City's MS4 webpage and those changes will be summarized in the 2021 – 2022 (PY3) annual report.

3.1 Public Education and Outreach (MCM #1)

Table 1 summarizes activities associated with Minimum Control Measure #1 and their completion status. Additional detail is provided after the table and in Appendix A.

Table 1. Summary of Activities for MCM #1

Strategy	BMP	Measurable Goal	Status
1A – Traditional Written Materials	Distribute pamphlets and other written materials about proper fertilization, pet waste, household hazardous waste, and other water quality topics at outreach events.	Dates and location of outreach events with the approximate number of attendees.	✓ Complete
1B – Alternative Materials	Distribute promotional items (giveaways) at education and outreach events. Include the Eco-City Alexandria Clean Waterways logo on these items, where possible.	Dates and location of outreach events with the approximate number of attendees.	✓ Complete
1C - Signage	Place BMP identification signs at surface structural stormwater BMPs (bioretention, swales, green roofs, etc.)	The total number of BMPs within the City.	✓ Complete
1C - Signage	Installation, maintenance, and re-stocking of pet waste stations with appropriate signage.	Number of existing and new pet waste stations. Number of pet waste bags used and distributed to refill stations.	✓ Complete
1C - Signage	Install storm drain markers.	Number of markers placed.	✓ Complete

Strategy	BMP	Measurable Goal	Status
1C - Signage	Install and maintain stream crossing signs.	Number of existing signs and number of signs added or replaced.	✓ Complete
1D – Media Materials	Use eNews (City electronic news distribution system), social media (Facebook or Twitter), television, and/or websites to convey message.	The number of individuals signed up to receive the City's eNews. The number of Facebook Page followers and Twitter followers. The number of visits to the Stormwater Management webpage. Clean Water Partners Only Rain Summary Report of Findings.	✓ Complete
1D – Media Materials	Have a reporting mechanism on the City's website so that residents can report potential illicit discharges.	The number of stormwater pollution related complaints received.	✓ Complete
1D – Media Materials	Use social media (Facebook, Instagram, or Twitter), website, and/or television including airing the City's stormwater pollution prevention video on the government/community access channel.	The number of individuals signed up to receive the City's eNews and the number of Facebook Page, Instagram, and Twitter followers. The number of visits to the Stormwater Management webpages including the TMDL, MS4, and What You Can Do to Protect Stormwater webpages.	✓ Complete
1E – Speaking Engagements	Present at no less than 2 events per year and include messages about excess nutrients, pet waste, illicit discharges and other stormwater quality issues.	Dates and locations of presentations with the approximate number of attendees.	✓ Complete

*The City uses Alexandria eNews, which is a service that allows users to receive information through email on nearly 100 topics (including stormwater related messages).

Public Education and Outreach Plan Development

The Public Education and Outreach Program identified (1) Chesapeake Bay Nutrients (phosphorus and nitrogen), (2) Pet Waste; and (3) Illicit Discharges, as high-priority water quality issues as part of the update to the Program Plan and created three distinct sets of BMPs to address these issues. A summary of specific strategies chosen from General Permit Table 1 and implemented during this reporting period for each of the high-priority water quality issues is provided at the end of this BMP section. The City also continues to implement BMPs associated with other aspects of water quality and has included these in the updated Public Education and Outreach Plan.

Clean Water Partners

The City continues to participate in the Northern Virginia Regional Commission (NVRC) Clean Water Partners, a regional educational partnership among other MS4 permittees: Fairfax County; Arlington County; Loudoun County; Fairfax Water; City of Fairfax; City of Falls Church; City of Manassas; Town of Leesburg; Town of Dumfries; Doody Calls; Northern Virginia Regional Commission; George Mason University; Virginia Coastal Zone Management Program; Fairfax County Public Schools; Prince William County Public Schools; and the Northern Virginia Soil and Water Conservation District. For the 2019 – 2020 reporting period, the Clean Water Partners used television, print, internet advertising and the "Only Rain" website (www.onlyrain.org) to distribute messages linked to specific stormwater problems associated with high-priority water quality issues, such as proper pet waste disposal, not bagging lawn clippings, planting native plants, and proper disposal of waste.

The program's three high-priority water quality issues are specifically bacteria, nutrients, and chemical contaminants which are consistent with the City's identified issues.

Included in Appendix A and referenced below under BMP 1D measure of effectiveness is the annual report on the Clean Water Partners program efforts with information on the effectiveness of the program based on the results of the program's annual survey. Specifically, the program conducted an online poll survey of 500 Northern Virginia residents to determine the effectiveness of on-line efforts and a series of TV, Facebook, and Twitter ads to reveal any changes in behavior, and to aid in directing the future efforts of the campaign. As a new strategy in 2020, the Partners contracted with a digital communications firm to develop and implement a social media campaign on Facebook and Twitter. The results so far have shown that these platforms are an effective way to engage with the target audiences.

Approximately 27% of Alexandrians responding to the survey recalled seeing ads on TV, Facebook, or Twitter on reducing water pollution.

The annual survey found that due to seeing the reducing water pollution advertisements:

- 48% of respondents pick up pet waste more often;
- 35% of respondents plan to fertilize fewer times during the year; and
- 15% of respondents now properly dispose of motor oil.

The survey also documented the following regarding responding Alexandrians:

- 66% believe stormwater ends up in local streams, Potomac River or Chesapeake Bay;
- 66% recognized the "Only Rain Down the Storm Drain" logo used by the program;
- 32% have received information about reducing water pollution in the past 12 months;
- 29% had heard of water quality activities in the past 12-months; and
- 53% said that they probably or would report potential pollution to the City.

BMP 1A Traditional Written Materials

Traditional written materials are a proven and reliable strategy. The City has created stormwater educational flyers/brochures and pamphlets that are distributed at various outreach events. The pamphlets include:

- Best Management Practices for Landscaping and Lawncare Companies;
- Best Management Practices for Restaurant and Food Handling Businesses;
- Best Management Practice for Automotive Garages and Service Centers;
- Make Your Home the Solution to Stormwater Pollution;
- Pet Waste;
- Polychlorinated Biphenyls; and
- Household Hazardous Waste & Electronics Recycling Program.

Measure of Effectiveness

Dates and locations of outreach events where these brochures were made available with the approximate number of attendees can be found in the table under BMP 2C. No changes to the MS4 Program Plan were deemed necessary.

BMP 1B Alternative Materials

Also distributed at outreach events are promotional items, or alternative materials, which are giveaways that include the City's Eco-City Clean Waterways logo. T&ES-SWM makes it a priority to select promotional items that are useful and related to stormwater while the logo brings awareness of the City's goal of improved water quality and clean waterways.

Measure of Effectiveness

Dates and locations of outreach events where these promotional items were distributed with the approximate number of attendees can be found in the table under BMP 2C. No changes to the MS4 Program Plan were deemed necessary.

BMP 1C Signage

The City continues to require all new and redevelopment projects to provide signage or labeling to identify new surface structural stormwater BMPs as part of the site plan approval process.

Additionally, the City has installed stream crossing signs at locations where hike and/or bike trails cross major waterways. The City maintains and replaces these signs as needed. No additional signs were installed during this reporting period. The City maintains 20 signs at 18 road crossings and five signs at three trail crossings. The signs promote awareness of Alexandria's surface water resources, water bodies, drainage basins, and location in the Chesapeake Bay Watershed.

The City was one of the first localities in Northern Virginia to implement a storm drain marking program. The City continues to require new development and redevelopment to mark storm drain inlets within the development and located within 50 feet of the project with information on the drainage

destination of waters entering the structures. In addition, City staff continue to promote the storm drain marking program at community outreach events and to work with interested residents to implement storm drain marking.

Measure of Effectiveness

- BMP signage is required for surface structural stormwater BMPs installed and a photo of the BMP sign and a copy of a final site plan sheet calling for the BMP signage can be found in Appendix A. See Appendix D for a list of all stormwater BMPs installed in this permit cycle.

- The City continues to maintain the stream crossing signs so that they are in good condition. A photo of one of the stream crossing signs can in found in Appendix A.

- Storm drain markers were installed as a requirement of development or redevelopment and a sample plan sheet with this requirement is provided in Appendix A. For FY20 approximately 120 new drain markers have been placed.

- No changes to the MS4 Program Plan were deemed necessary.

BMP 1D Media Materials

The City continues to host a stormwater quality webpage and has created a dedicated page at www.alexandriava.gov/Stormwater. The page includes information about the City's Stormwater Management Program, the Chesapeake Bay Action Plan, the City's Virginia Stormwater Management Program (VSMP), the MS4 Program – to include the Program Plan and each annual report for this permit cycle – and provides information for residents to learn how they can protect local streams and rivers. In addition, pages linked to this main page contain external links for the Chesapeake Bay Preservation Act, VSMP requirements, and the Construction General Permit. It also contains information and links to the City's Environmental Management, and Erosion and Sediment Control ordinances. Staff continues to add new content to the site and update existing content.

In addition, the City highlights upcoming events or important information, and posts information on the T&ES Facebook, Instagram, and Twitter account. These tools are used to promote water quality events such as volunteer stream cleanups, build your own rain barrel workshops, and pre-made rain barrel sales events, and raise awareness of water quality topics.

The City also uses *Alexandria eNews* to distribute information through email on nearly 100 topics (including stormwater related messages). Users sign up for these email alerts and choose to receive specific informational topics. For example, individuals may choose to receive news with a specific focus on environmental and water quality issues, and/or information on volunteer opportunities, tips, and workshops. T&ES and the Office of Communication & Public Information (OCPI) work closely together to widely distribute eNews messages and other Citywide information.

In 2016, the City developed a video about stormwater pollution prevention and the City's Stormwater Program. This video can be found on the City's Stormwater website via a YouTube link and is also aired on both the government access channel (Channel 70) and the community access channel (Channel 69).

The City maintains its online resident reporting capabilities (See BMP 3A). The City's *Call.Click.Connect* Customer Relations Management (CRM) initiative was replaced in February 2020 by Alex311. Alex311 is prominent on the City's main page and subordinate pages.

Measure of Effectiveness

See the tables under the High Priority Issues for the following:

- The number of individuals signed up to receive the City's eNews.
- The number of Facebook Page followers, Instagram followers, and Twitter followers.
- The number of visits to the Stormwater Management webpage.

See Appendix A for the following:

- Sample eNews, Facebook posts, Instagram posts, and Twitter posts
- The Clean Water Partners Only Rain Summary Report of Findings

No changes to the MS4 Program Plan were deemed necessary.

BMP 1E Speaking Engagements

T&ES-SWM staff often presents at various meetings and events including rain barrel workshops, homeowner association meetings, community events, and stream clean-ups. In addition, staff has also presented to students at Northern Virginia Community College about stormwater and the importance of pollution prevention. These activities all create awareness regarding the importance of preventing stormwater pollution. Due the COVID-19 global health pandemic, the amount of speaking engagements was limited to two focused on general stormwater education – one in-person to students at Northern Virginia Community College and one on-line to participants engaged with Volunteer Alexandria's Breaks With Impact program. The City participated in five (5) speaking engagements specific to stream restoration projects that are currently in the planning phase that are in the Chesapeake Bay TMDL Action Plan.

Measure of Effectiveness

Dates, locations, and approximate number of attendees at each speaking engagement can be found in the table under General Stormwater Pollution Prevention Public Education and Outreach. No changes to the MS4 Program Plan were deemed necessary.

High-Priority Issues

#1 – Chesapeake Bay Nutrients

Chesapeake Bay nutrients (nitrogen and phosphorus) have been identified as the as the first high-priority water quality issue. The following strategies were implemented in accordance with the MS4 Program Plan and as described in the BMPs 1A, 1C, 1D, and 1E above. Documentation of each activity is found in Appendix A.

1. Distributed proper fertilization pamphlets and other written materials at outreach events.

2. Used eNews (City electronic news distribution system), social media (Facebook or Twitter), television, and/or websites to convey messages regarding Chesapeake Bay Nutrients. Message addressed seasonally specific stormwater pollution prevention tactics for nutrients and pointed readers back to the City's website with additional information on the topic.
3. Created a "Stormwater Management" webpage at www.alexandriava.gov/Stormwater related to the proper application and use of fertilizers to protect water quality. Also, a link to the NVRC www.onlyrain.org website was included.
4. In 2016, the City developed a video about stormwater pollution prevention and the City's Stormwater Program. This video can be found on the City's Stormwater website via a YouTube link and is also aired on both the government access channel (Channel 70) and the community access channel (Channel 69). A screen shot of the video on YouTube can be found in Appendix A.
5. Placed BMP identification signs at surface structural stormwater BMPs (bioretention, swales, green roofs, etc.) as each BMP is installed.
6. Presented at events and included a message about excess nutrients in stormwater.
7. Continued to participate in the NVRC Clean Water Partners program he partners used television, print, internet advertising and the Only Rain website to distribute messages such as over fertilization of lawns and gardens. The Clean Water Partners 2020 Summary and Survey can be found in Appendix A.

The goal of these strategies is to reach a wide audience with a message regarding the potential impact of nutrients on the Chesapeake Bay as well as specific actions that can be taken to reduce pollution. The table below provides the potential reach of different media used in the City's Public Education and Outreach Plan.

For a list of public education and outreach events, please see the table under BMP 2C. In addition, Appendix A contains examples and supporting materials for these best management practices.

#2 – Pet Waste

The second high-priority water quality issue identified is bacteria from pet waste. The following activities were implemented during this permit cycle in accordance with the MS4 Program Plan to address pet waste.

1. Distributed pet waste pamphlets and other written materials at all appropriate outreach events.
2. Used eNews (City electronic news distribution system), social media (Facebook, Instagram, and Twitter), television, and/or websites to convey message of the importance of picking up after pets and disposing of the waste properly.

3. Continued to maintain City pet waste stations and supply bags for stations. A few hundred pet waste bags were provided during this permit cycle. Additional installations of stations will continue to occur, where appropriate, to make pick-up and disposal more convenient. Also, there are many residential communities in the City that install and maintain their own pet waste stations.
4. Distributed "dog bone" pet waste bag dispensers and refills at outreach event.
5. Continues to participate in the NVRC Clean Water Partners regional efforts, with the survey found in Appendix A.

The goal of these strategies is to reach a wide audience with the pet waste message and specific actions to reduce pollution. The table below provides strategy, potential target reach, and estimated reach information.

The Clean Water Partners annual survey found that 48% of respondents picked up pet waste more often after seeing the advertisements.

For a list of public education and outreach events, please see the table in Section BMP 2C. In addition, Appendix A contains examples and supporting materials for these best management practices.

#3 – Illicit Discharges

The third high-priority water quality issue identified is illicit discharges. The following activities were implemented in accordance with the MS4 Program Plan during the permit year to address illicit discharges.

1. Used eNews (City electronic news distribution system), social media (Facebook or Twitter), television, and/or websites to convey messages regarding illicit discharges.
2. Created the www.alexandriava.gov/Stormwater webpage which includes a page specifically related to illicit discharges for the targeted businesses and the general public, and included a link to the NVRC www.onlyrain.org website.

1. In 2016, the City developed a video about stormwater pollution prevention and the City's Stormwater Program. This video can be found on YouTube and is also aired on both the government access channel (Channel 70) and the community access channel (Channel 69). A screen shot of the video on YouTube can be found in Appendix A.
3. Continued to participate in the NVRC Clean Water Partners regional efforts. Last permit cycle, focus transitioned from proper oil change procedures and disposal to illicit discharges. The Northern Virginia Clean Water Partners 2020 Summary and Survey can be found in Appendix A.

The goal of these strategies is to reach a wide audience with an illicit discharge message and specific actions to reduce pollution.

Table 2 provides strategy, potential target reach, and estimated reach information for the high-priority issues.

Table 2. Estimated Reach of High-Priority Issues

Media	Potential Target Reach	Estimated Permit Year Reach
eNews message	Environmental eNews Subscribers – 6,021	100% of Environmental eNews Subscribers
Social Media Message	Visitors to T&ES Facebook Page and Twitter Followers	T&ES Facebook Page has 1,795 followers. T&ES has 1,717 Twitter followers. Instagram has 1,064 followers.
Stormwater Webpage	3,078 unique page views	100% of unique page views
PSAs	TV Viewers – 50,000 subscribers (approximate)	100% of PSA Viewers

General Stormwater Pollution Prevention Public Education and Outreach

The City implemented the following activities during the permit cycle in accordance with the MS4 Program Plan.

1. Distributed other written materials about water quality and stormwater pollution prevention at outreach events.
2. Distributed promotional items (giveaways) at education and outreach event.
3. Used social media (Facebook, Instagram, and Twitter), webpages, and/or television including airing the City's stormwater pollution prevention video on the government/community access channel.
4. Maintained stream crossing signs to promote awareness of Alexandria's surface water resources, water bodies, and drainage basins.
5. Presented at events to include message about water quality and stormwater pollution prevention.

The goal of this BMP is to reach a wide audience with a general pollution prevention message as well as specific actions that can be taken to reduce pollution. The following table summarizes the City's public education and outreach activities and events where information on pollution prevention and water quality were distributed. Appendix A contains examples from the City's general education program.

Table 3. Summary of Public Education and Outreach Activities

Activity	Date	Topic	Number of Participants (approximate)
Breaks With Impact (Volunteer Alexandria)	4/23/2020	Stormwater / Eco-City General	5
Virginia Clean Waterways Cleanup (International Coastal Cleanup) Oronoco Bay Park	9/21/2019	International event that is the largest volunteer effort for our ocean.	20
Cora Kelley STEM Night	2/21/2020	STEM event focused on elementary-school aged children.	200
Rain Barrel Workshop (sponsored by Arlington County)	3/7/2020	The City partners with the Northern Virginia Soil & Water Conservation District to conduct a build-your-own rain barrel workshop. The workshop also covers the importance and how to maintain the rain barrel. This one was hosted by Arlington County and was open to Alexandria residents.	25
Virginia Clean Waterways Cleanup (International Coastal Cleanup) Oronoco Bay Park	9/21/2019	International event that is the largest volunteer effort for our ocean.	20
NVCC Presentation	2/6/2020	Stormwater / Eco-City General	25
Strawberry Run Public Community Meeting	11/4/2019	Stream Restorations / Stormwater	20-30
Civic Association Meeting	1/8/2020	Stream Restorations / Stormwater	20-30
Parks and Rec Commission	9/19/2019	Stream Restorations / Stormwater	20-30
Taylor Run Public Community Meeting	1/16/2020	Stream Restorations / Stormwater	20-30
Civic Association Meeting	2/13/2020	Stream Restorations / Stormwater	20-30

3.2 Public Involvement/Participation (MCM #2)

The following table is a summary of activities for Minimum Control Measure #2 and their completion status. Additional detail is provided after the table and in Appendix B.

Table 4. Summary of Activities for MCM #2

BMP	Measurable Goal	Status
2A Public Reports, Input, and Participation Procedures		
Maintain the City's web-based reporting (*Call.Click.Connect* and Alex311) and call center systems.	Include a screen shot of the *Call.Click.Connect* page and Alex311 and phone number for T&ES Stormwater management.	✓ Complete
Post MS4 Program Plan on webpage and document input/feedback.	Document that the program plan has been placed on the webpage and any input received on the plan.	✓ Complete
2B MS4 Program and Stormwater Pollution Prevention Webpage		
Maintain the City's MS4 and Stormwater Pollution Prevention Webpage	Provide the address of the webpage and a snapshot of the webpage.	✓ Complete
2C Local Activities Public Involvement		
Implement at least two clean-ups per year	Document sponsorship and participation in clean-up events including approximate participation	✓*Due to COVID-19 pandemic, this was limited to one City-sponsored clean-up*
Participate in at least two educational events per year	Document sponsorship and participation in educational events, including approximate participation	✓*Due to COVID-19 pandemic, this was limited to one event*
Continuously implement the storm drain marker program and maintain City owned pet waste stations.	Document the number of individuals marking storm drains and the maintenance of City owned pet waste stations	✓ Complete

BMP 2A Public Reports, Input, and Participation Procedures

The City implemented the following BMPs during this permit year in accordance with the MS4 Program Plan.

1. Maintained the *Call.Click.Connect* and Alex311 (starting in February 2020) web-based problem reporting and call center (703-746-HELP) that can be used by residents and others to report suspected illicit discharges (including improper disposal or spills), complaints (including ones regarding land disturbing issues), and other input. Responded to received reports, complaints, and other input.

2. Posted the updates to the MS4 Program Plan no later than 30 days after the update (10/1) to the City's Stormwater MS4 Program webpage (https://www.alexandriava.gov/93364). The webpage includes a general email address (MS4ProgramPlan@alexandriava.gov) and the main phone number for T&ES-SWM for the public to use to submit input and feedback on the plan.

Measure of Effectiveness

1. A screen capture of the *Call.Click.Connect* and Alex311 webpages are provided in Appendix B. Potential illicit discharge complaints, some which were received through *Call.Click.Connect* and Alex311, can be found in Appendix C. The MS4 Program Plan was updated with information on Alex311.

2. The updated MS4 Program Plan was posted in May 2019. No comments were received for the plan. A screen shot of the stormwater webpage that shows the link to the MS4 Program Plan with the T&ES-SWM phone number is provided in Appendix B.

BMP 2B MS4 Program and Stormwater Pollution Prevention Webpage

The City has developed a website dedicated to stormwater pollution prevent, water quality and the MS4 Program at www.alexandriava.gov/Stormwater that has links to other aspects of the stormwater management program. According to 2016 Census data, over 81% of households in the United States have access to the internet. The site provides information about the program, serves as a forum to distribute educational materials, includes information on where to report suspected illegal dumping, and makes documents accessible to the public for review and comment.

In accordance with Part I.E.2.b, the City's MS4 Program and Stormwater Pollution Prevention webpage was updated to contain:

1. Current MS4 permit and coverage letter;
2. Most current MS4 Program Plan;
3. Annual reports from FY2015 to current;
4. T&ES-SWM main phone number and Alex311 link through "Contact Us" at the top of the page for reporting illicit discharges or other potential stormwater pollution concerns; and
5. Email address (MS4ProgramPlan@alexandriava.gov) for providing input on the MS4 Program Plan and other general inquiries about the program.

Measure of Effectiveness

The address to the City's MS4 Program webpage is www.alexandriava.gov/93364 and a screen shot of the webpage is provided in Appendix B. No updates to the MS4 Program Plan were deemed necessary.

BMP 2C Local Activities Public Involvement

Typically, the City sponsors, promotes, and participates in numerous local events to educate citizens about the importance of preventing stormwater pollution. However, due to the global COVID-19 pandemic, these activities were reduced/cancelled in order to protect human health, as described below.

- September 21, 2019: City organized a cleanup at Historic Holmes Run, 5005 Duke Street with 13 bags of trash collected with participation of 22 individuals. The cleanup was in coordination with the Clean Virginia Waterways & International Coastal Clean Up program and the introduction for the volunteers included information on trash and how it enters our waterways.
- April 14, 2020: Scheduled to lead two cleanup sites on Four Mile Run and one site on the Historic Holmes Run Channel for the Potomac River Watershed Cleanup sponsored by the Alice Ferguson Foundation that was cancelled due to COVID-19 public health emergency.
- June 9, 2020: Scheduled to lead a site cleanup during Clean the Bay Day on June 9, 2020 that was cancelled due to COVID-19 public health emergency.
- Participated in the planning meetings for Alexandria Earth Day (scheduled for May 1, 2020) which was cancelled due to COVID-19.

The City did participate in several local public outreach events as documented in the following table.

Table 5. Public Stormwater Outreach Events during PY2

Activity	Date	Participants	Event Details
Virginia Clean Waterways Cleanup (International Coastal Cleanup) Oronoco Bay Park	9/21/2019	20	International event that is the largest volunteer effort for our ocean.
Cora Kelley STEM Night	2/21/2020	200	STEM event focused on elementary-school aged children.
Rain Barrel Workshop (sponsored by Arlington County)	3/7/2020	25	The City partners with the Northern Virginia Soil & Water Conservation District to conduct a build-your-own rain barrel workshop. The workshop also covers the importance and how to maintain the rain barrel. This one was hosted by Arlington County and was open to Alexandria residents.

Measure of Effectiveness

The City's Stormwater Management Division participated in three activities where staff educated participants about stormwater pollution and prevention; distribution of educational and outreach materials; and student exhibits/experiments to increase knowledge about the harmfulness of pollution. These activities all create awareness regarding the importance of preventing stormwater pollution. No updates to the MS4 Program Plan were deemed necessary.

3.3 Illicit Discharge Detection and Elimination (MCM #3)

The following table is a summary of activities for Minimum Control Measure #3 and their completion status. Additional detail is provided after the table and in Appendix C.

Table 6. Summary of Activities for MCM #3

BMP	Measurable Goal	Status
3A Storm Sewer System Outfall Map and Outfall Information Table		
Maintain an up-to-date storm sewer map and outfall information table.	Keep up-to-date storm sewer map and outfall information table available on request.	✓ Complete
Update the storm sewer map and outfall table by October 1st of each year.	Include PDF of updated storm sewer map and information table in the annual report. Provide a summary of updates.	✓ Complete
Provide GIS shapefiles to DEQ no later than July 1, 2019	Include documentation of submittal.	✓ Complete
Notify downstream MS4s of any new physical interconnections.	Include copies of previous notifications and list and provide any notifications from the permit year.	✓ Complete
3B Prohibition on Illicit Discharges		
Enforce prohibition on illicit discharges (Chapter 13 of City Code).	Report number of illicit discharges identified and report how they were controlled or eliminated. Review City IDDE Program Manual and corresponding City Code and make recommendations accordingly.	✓ Complete
3C Illicit Discharge Detection and Elimination Written Procedures		
Maintain, implement and enforce the written procedures found in the City's IDDE Program Manual.	Follow procedures and update as necessary.	✓ Complete
Investigate suspected illicit discharges.	Report number of suspected illicit discharges and provide a narrative on how they were controlled or eliminated.	✓ Complete

BMP	Measurable Goal	Status
Screen at least 50 outfalls annually such that no more than 50 are screened in the previous 12-month period.	Include documentation of the outfall screening completed during the permit year to include results, resolution, and investigation closure. Any follow-up actions will also be included.	✓ Complete
3D Alex311 and *Call.Click.Connect*		
Maintain Alex311 (formerly *Call.Click.Conect*)	Include a screen capture of Alex311. Document the number and types of incidents handled.	✓ Complete
3E Household Hazardous Waste (HHW) Program		
Provide HHW collection services to all residents	Provide copies of the program web site and brochures. Document program participants and the number of equivalent barrels of waste accepted.	✓ Complete
3F Identification of Permitted Stormwater Discharges		
Keep up-to-date permitted discharges information and distribute to field crews.	Provide up-to-date map and list of state-permitted stormwater discharges.	✓ Complete
3G Prohibition of Outdoor Cleaning of Restaurant Equipment		
Enforce prohibition on outdoor cleaning of restaurant equipment.	Document example SUP, if one has been done in the permit year.	✓ Complete

BMP 3A Storm Sewer System Outfall Map and Outfall Information Table

The City has previously developed and continues to maintain a storm sewer system map showing all features required in the MS4 permit, including all stormwater outfalls discharging to the waters of the Commonwealth, as well as pipes, catch basins, and inlets. The map provides a valuable tool to fully understand the storm system and aids in investigating and eliminating possible illicit discharges. The data used to develop this map is continuously updated as new systems are installed and needed refinements to the system area discovered. The updated data is used to create the map which is exported for the annual report each permit cycle. Therefore, data shown on the map reflects all changes and updates to the City's documented storm sewer system as the date on the map.

The City shall continue to identify physical interconnections with other regulated MS4s and notify in writing any downstream regulated MS4 of any new physical interconnections.

Measure of Effectiveness

The storm sewer system map and corresponding outfall information table have been updated to reflect any changes to the MS4 occurring on or before June 30th of the reporting year. Updates to the storm sewer system map are completed as redevelopment occurs and when refinements to the system are realized. The most current storm sewer system map and associated outfall table has been provided in Appendix C.

In previous permit years, the City notified downstream MS4 of physical interconnections which included National Park Service, George Washington Memorial Parkway, Arlington County, Fairfax County, and Virginia Department of Transportation. Copies of these notifications can be found in Appendix C. During PY3, the City will re-send these notifications to updated MS4 contacts. No updates to the MS4 Program Plan were deemed necessary.

BMP 3B Prohibition on Illicit Discharges

The purpose of this BMP is to ensure that the City has the legal tools necessary to effectively prohibit illicit discharges and to conduct necessary enforcement in the case of an illicit discharge. City Council has adopted appropriate measures, including civil and criminal penalties, to prohibit illicit discharges. The City Attorney has reviewed the City Code and has determined that no additional changes are needed at this time. In recent years, the City did recognize the need for civil penalties for offenses that are not categorized as criminal. As a result, the City updated the Environmental Offenses ordinance to include civil penalties for identified illicit discharges.

Measure of Effectiveness

Appendix C provides a summary of illicit discharge complaints and a narrative on how each complaint was handled, including how any actual discharge was controlled or eliminated as appropriate. No pattern of illicit discharges necessitated a review of policies, procedures, or ordinances. No updates to the MS4 Program Plan were deemed necessary.

BMP 3C Illicit Discharge Detection and Elimination Written Procedures

Pursuant to the 2013-2018 General Permit program plan update requirements, the City developed the Illicit Discharge Detection and Elimination Program manual which included written policies, procedures, and legal authority for the detection, investigation, and elimination of illicit discharges. Outfall field screening is performed in accordance with the IDDE Program manual which includes the requirement outlined in Part I.E.3.c of the 2018-2023 permit. The City's IDDE Program manual was recently updated to ensure current methodology and compliance with the current permit, to include the use of civil penalties. This manual can be found in the City's MS4 Program Plan.

The City continues to maintain, implement and enforce the written policies and procedures found in the City's IDDE Program manual. This includes:

- Documenting and tracking reported suspected illicit discharges or illicit discharges discovered during dry weather field screening, and the results of any investigations in accordance with the requirements in Part I.E.3.c.(2) of the 2018-2023 permit.

- Performing dry weather field screening on at least 50 outfalls annually such that no more than 50% are screened in the previous 12-month period. Outfalls were prioritized for field screening by the City in accordance with the rationale and procedure found in the IDDE Program manual.
- The use of enforcement actions and legal penalties as outlined in the IDDE Program manual, when necessary.

Measure of Effectiveness

A list of illicit discharges to the MS4 including spills reaching the MS4 can be found in Appendix C. In addition, a list of all investigations performed for reported suspected illicit discharges to include results, resolution, and date of investigation closure can also be found in Appendix C.

A total of 50 outfalls were screened during the reporting period as part of the dry weather screening program, with a table summarizing the effort found in Appendix C. No updates to the MS4 Program Plan were deemed necessary.

BMP 3D Alex311 (formerly *Call.Click.Connect*)

In February 2020, the City transitioned from *Call.Click.Connect* to Alex311. Alex311 uses a web-based reporting form, smart phone app, and call center built upon the Salesforce Customer Relationship Management (CRM) system. The Salesforce CRM system is a cloud-based repository for public complaints and service requests. The CRM is integrated with the City's asset management database, Cityworks™, for public submissions requiring asset maintenance or investigation. Illicit discharge and illegal dumping complaints are investigated by T&ES-Stormwater Management Division and the Fire Marshal's Environmental and Industrial Unit (EIU). All public submissions are tracked through the City's CRM database and Cityworks™.

The new Alex 311 Call Center connects customers to information, services, and solutions similar to the current *Call.Click.Connect* system, using phone (703-746-HELP or 311) and web based portals to receive and process requests and complaints. The 311 Call Center enables the City to standardize best practices and knowledge base information throughout the City in support of citizen engagement, customer service, service request and case management services. The new 311 Call Center provides improved tracking and information updates for customers through the life cycle of the service request, streamlined service request creation and management, and data-driven analytics such as dashboards and maps.

Measure of Effectiveness

The City (through T&ES-Stormwater and EIU reporting mechanisms) handled 39 water quality and illicit discharge related complaints or incidents during this reporting period. The SWM Division receives complaints directly from Alex311 and/or documents the information received via email, phone or another source. The EIU is responsible for entering this information into the EnerGov database. The SWM Division receives and enters data into Alex311 for incidents handled solely by their office. During coordinated responses, the EIU and SWM Division maintain both the EnerGov and Alex311 database.

Appendix C provides a summary of the complaints and a narrative on how each discharge was controlled or eliminated. During this permit year, the City began receiving multiple complaints of litter in the City's waterways and responded to complaints regarding discoloration of a regional wet pond in the 300 Block of Potomac Avenue in Potomac Yard. The litter complaints focused on multiple sections in Cameron Run watershed including Holmes Run and Hunting Creek. It was determined that the litter was not due to intentional illegal dumping event(s). Due to COVID-19 concerns, volunteer stream cleanups associated with the Alice Ferguson Foundation usually held in the spring were cancelled. It is almost certain that the trash observed would have been removed via the multiple annual volunteer sites and events usually held in the City. Because of this, the City sent out several landscape contracting crews to clean up the areas of concern. With regards to the wet pond, the City continues with work collaboratively with the private BMP owners to address the discoloration that has been determined is from iron-laden groundwater entering the regional wet pond and oxidizing causing the reddish/orange color. The City continues to update DEQ on the progress. Screen shots of EnerGov, Alex311, and Cityworks™ are provided in Appendix C.

The MS4 Program Plan was updated to include information on Alex311.

BMP 3E Household Hazardous Waste (HHW) Program

Participation in the household hazardous waste (HHW) program continues to be a popular and effective program with approximately 11,975 participants using the program in this permit year. Due to the COVID-19 global pandemic, the site was closed for health and safety reasons for 15-days. It was anticipated that 14,200 participants would have visited the HHW site this year but instead, there was a small decrease in use this permit year. Materials are collected and disposed of in their containers, not in an actual HHW barrel as was done previously, materials are calculated based on 55-gallon drums or equivalent (barrels). The number of barrels has been tracked since 2008 when the materials were put into the large barrels or drums. As a result, the City continues to track this number as "equivalent" barrels. The webpage alexandriava.gov/19206 includes information on the types of materials that may be left at the drop-off points and the schedule for drop-offs. The following table provides a snapshot of HHW program statistics.

Table 7. HHW Users and Barrels by Fiscal Year (FY)

Year	Users	Barrels (or Equivalent Barrels) of HHW
FY2008	4,987	-
FY2009	6,067	754
FY2010	7,059	875

FY2011	7,920	822
FY2012	7,698	702
FY2013	8,424	759
FY2014	9,535	516
FY2015	10,476	504
FY2016	9,976	409
FY2017	10,974	359
FY2018	11,431	309
FY2019	12,278	328
FY2020	11,975	298

Measure of Effectiveness

A screen capture of the HHW webpage and the most recent program brochure is provided in Appendix C. No updates to the MS4 Program Plan were deemed necessary.

BMP 3F Identification of Permitted Stormwater Discharges

The City continues to obtain updated information annually on state-permitted stormwater discharges within the City limits and maintains a map of these discharges. The purpose of this BMP is to provide field operations staff with a visual tool for identifying permitted and non-permitted discharges.

Measure of Effectiveness

A current map and table of state-permitted stormwater discharges, current as of January 2020 based on the most recent version found on the DEQ website can be found in Appendix C. No updates to the MS4 Program Plan were deemed necessary.

BMP 3G Prohibition of Outdoor Cleaning of Restaurant Equipment

The City continues to include in the Special Use Permit (SUP) issued for restaurant facilities a standard condition that states: "Kitchen equipment shall not be cleaned outside, nor shall any cooking residue be washed into the streets, alleys, or storm sewers."

Measure of Effectiveness

A sample of a Development Special Use Permit (DSUP) reviewed during the reporting period with the appropriate language regarding restaurant equipment is found in Appendix C. No updates to the MS4 Program Plan were deemed necessary.

3.4 Construction Site Stormwater Runoff Control (MCM #4)

The following table is a summary of activities for Minimum Control Measure #4 and their completion status. Additional detail is provided in the table below and in Appendix D.

Table 8. Summary of Activities for MCM #4

BMP	Measurable Goal	Status
4A Maintain DEQ Erosion and Sediment Control Program Consistency		
Maintain E&SC program consistency with State regulations.	Document the City program consistency with state law and regulations.	✓ Complete
4B Site Control Implementation		
Ensure that the proper controls are implemented to prevent nonstormwater discharges to the MS4.	Implement City's Policies and Procedures for Construction Site Runoff Control Inspections	✓ Complete
4C Construction General Permit Inspections and Tracking		
Require applicable land-disturbing activities secure coverage under the construction general permit.	Require construction general permits as required in accordance with City ordinance.	✓ Complete
Review and approve SWPPPs and ensure SWPPP implementation.	Review and approve SWPPPs. Document total number of inspections; provide a summary of enforcement actions included number and type.	✓ Complete
Maintain a database log for tracking all land disturbing activities.	Summarize annual land disturbing activities that secured a construction general permit	✓ Complete
Inspect land-disturbing activities in compliance with the E&S ordinance, the EMO and written policies and procedures.	Document total number of inspections; provide a summary of enforcement actions included number and type.	✓ Complete
Ensure inspectors and plan reviewers are certified and keep records on file.	Document certifications held by City staff and ensure they stay up-to-date.	✓ Complete

BMP	Measurable Goal	Status
Utilize legal authority to require compliance with an approved plan or require plan revisions or modifications if the inspection shows an approved plan to be inadequate to control stormwater runoff.	Document total number of inspections; provide a summary of enforcement actions included number and type.	✓ Complete

BMP 4A Maintain Erosion and Sediment Control Program Consistency

The City's construction site stormwater runoff program is implemented in accordance with Part I.E.4.a of the permit.

The City's Erosion and Sediment Control Program continues to be consistent with the Virginia Erosion and Sediment Control Law (VESCL) and attendant regulations. During the 2014 – 2015 permit year, the City reviewed the Erosion and Sediment Control (E&SC) Ordinance for consistency with the Environmental Management Ordinance (EMO) and adopted the appropriate amendments to the E&SC ordinance.

Measure of Effectiveness

The effectiveness of the City's program is measured by consistency with State regulations as determined by staff from the T&ES-SWM. No consistency issues were identified during this permit year. Following review of the E&SC ordinance in the 2014-2015 permit year, the City amended the language for consistency with the EMO. The City Council adopted the amendments on June 10, 2015. No updates to the MS4 Program Plan were deemed necessary.

BMP 4B Site Control Implementation

The City has incorporated language into its plan review checklist, policies and procedures, and Sec. 13-111of the EMO which requires applicable proposed land disturbing activities to secure coverage under the construction general permit prior to commencing land-disturbance. Proper controls are required to be implemented at these sites to prevent nonstormwater discharges to the MS4. These nonstormwater discharges include wastewater, concrete washout, fuels and oils, and other illicit discharges. To ensure that these controls are in place, the City has developed a policies and procedures document entitled *Policies and Procedures for Construction Site Runoff Control Inspections* which can be found in Appendix D of the City's MS4 Program Plan.

Measure of Effectiveness

Implement City's *Policies and Procedures for Construction Site Runoff Control Inspections*.

BMP 4C Construction General Permit Inspections and Tracking

The City received local VSMP authority approval to administer the Construction General Permit effective July 1, 2014. Since this date, applicable construction sites had to submit stormwater pollution

prevention plans (SWPPP) to the City for review and approval in order to secure coverage under the General VPDES Permit for Stormwater Discharges Associated with Construction Activities prior to final site plan release. This requirement is found in Sec. 13-111 of the EMO. The City also revised the plan review checklist and plan review standard conditions to reflect this requirement. A copy of the SWPPP template can be found on the City's website at www.alexandriava.gov/50216.

Part I.E.4.c of the permit requires the City to conduct inspections and have written inspection procedures of land-disturbing activities. The City has developed a policies and procedures document entitled *Policies and Procedures for Construction Site Runoff Control Inspections* as described in BMP 4B and found in the City's MS4 Program Plan.

Land disturbing activities are tracked by T&ES-Development and Right-of-Way (DROW) through the plan review process. The information is recorded and logged when final approved plan mylars and grading plans are released. Reports are sent to T&ES-SWM who provides the data quarterly to DEQ.

In accordance with 9VAC25-850-40, inspectors and plan reviewers are required to maintain the appropriate certification of competency from the state.

The City continues to use its legal authority to require compliance with an approved plan or require plan revisions or modifications if the inspection shows and approved plan to be inadequate to control stormwater runoff. Stormwater staff reviewed each plan set the City receives for compliance with the EMO. If changes to the plans are required, the plans will be reviewed again to ensure compliance.

Measure of Effectiveness

Land disturbing projects that occurred during the reporting period have been conducted in accordance with the department approved standards and specifications for erosion and sediment control. No updates to the MS4 Program Plan were deemed necessary.

The following table provides an annual summary of land-disturbing activities data required to be reported under permit Section II 4.f. This data, broken down quarterly, has been provided to DEQ through the construction general permit process. A total of 42 projects were released; two (2) projects were partially released; with a total of approximately 66.38 acres disturbed.

Table 9. Land-Disturbing Activities

Reference #	Address	Disturbed Acres	Project Released Date
GRD2019-00023	101 E. Windsor Av.	0.1795	7/23/2019
GRD2019-00026	450 Andrews Lane	0.8	7/23/2019
GRD2019-00015	2715 King St.	0.08	7/24/2019
DSP2012-00008	701 E Glebe Road	2.9775	8/8/2019
DSP2018-00002	2606 Main Line Blvd	2.49	8/27/2019

Reference #	Address	Disturbed Acres	Project Released Date
GRD2019-00025	2418 Ridge Rd. Dr.	0.21	8/27/2019
DSP2019-00010	1709 Russell Rd.	0.1315	8/28/2019
DSP2018-00007	1200 N. Fayette St.	2.85	8/29/2019
GRD2020-00001	2601 Main Line Blvd	3.26	9/4/2019
GRD2019-00007	605 E Timber Branch Prkwy	0.2574	9/20/2019
GRD2019-00027	5690 Eisenhower Avenue	0.15	9/24/2019
GRD2019-00028	5699 Eisenhower Avenue	0.2	9/24/2019
DSP2018-00006	880 s Pickett Street	6.5	9/26/2019
GRD2019-00029	3305 Cameron Mills Rd.	0.1819	9/30/2019
GRD2019-00029	3305 Cameron Mills Road	0.1819	10/9/2019
DSP2018-00019	1200 N Quaker Lane	9.146	10/11/2019
GRD2019-00007	605 E Timber Branch Pkwy	0.2574	10/22/2019
GRD2019-00030	1412 Ruffner Road	0.24	10/28/2019
DSP2018-00028	2395 Mill Road	1.889	11/26/2019
DSP2017-00025	1201 N Royal Street	1.077	12/10/2019
DSP2018-00014	600 N Royal Street	3.46	12/13/2019
DSP2017-00025	1201 N. Royal St.	1.077	1/22/2020
DSP2018-00014	600 N. Royal St. Garage	3.46	2/3/2020
GRD2020-00006	2403 Terrett Av.	0.1296	2/12/2020
GRD2020-00007	9 E. Windsor Avenue	0.1851	2/12/2020
GRD2020-00015	637 Oakland Terrace	0.1559	2/15/2020
GRD2020-00021	2808 Ridge Rd.	0.1247	2/15/2020
GRD2020-00008	1609 Russell Rd.	0.0953	2/24/2020
GRD2020-00020	211 E. Oak St.	0.0907	3/6/2020
GRD2020-00019	519 Canterbury Lane	0.149	3/16/2020
GRD2018-00023	601 & 603 N.Alfred St.	0.0902	3/19/2020
DSP2017-00023	2410 Mill Rd.	7.85	3/23/2020
GRD2020-00016	607 N.Alfred ST.	0.1254	3/27/2020

Reference #	Address	Disturbed Acres	Project Released Date
CDD2016-00003	5730 Edsall Road	14.91	5/14/2020
GRD2020-00032	1603 King James Place	0.0843	5/26/2020
GRD2020-00031	109 E. Windsor	0.1566	6/4/2020
GRD2020-00026	111 E. Alexandria Av.	0.1282	6/8/2020
GRD2020-00033	303 E Oxford Avenue	0.132	6/16/2020
DSP2019-00040	1701 N Beauregard St	0.22	6/22/2020
GRD2020-00027	911 Pendleton Street	0.101	6/24/2020
GRD2020-00030	3202 Old Dominion Bv.	0.1399	6/26/2020
GRD2020-00002	4213 W Windsor Avenue	0.1974	12/10/2019
DSP2018-00017	2901 Potomac Avenue	N/A	Released Partially 8/6/2019
DSP2018-00003	114 S. Washington ST.	0.2601	Released Partially 2/26/2020

The City performed a total of 1,567 onsite inspections – 319 outside of the MS4 boundary and 1,248 inside of the MS4. As described in the MS4 Program Plan, T&ES-C&I inspectors perform other duties beyond E&SC inspections. For this reason, inspectors may visit a site up to two times daily. During this time, inspectors may provide verbal direction regarding E&SC and stormwater measures. This verbal direction is considered formal but may not always be documented formally in an inspection report unless a required inspection and report is due, or if a major corrective action is required. Due to this enhanced oversight, City inspectors provide continual direction which tends to keep a site in order and not create the need for enforcement action. No Stop Work Orders were issued during the permit year.

The applicable City staff have obtained DEQ certifications (Stormwater Management Program Administrator, Plan Reviewer, and/or Inspector) or are in the process of obtaining these certifications. All applicable staff are currently fully certified, provisionally certified, or have the necessary training scheduled.

3.5 Post Construction Stormwater Management (MCM #5)

The following table is a summary of activities for Minimum Control Measure #5 and their completion status. Additional detail is provided after the table and in Appendix E.

Table 10. Summary of Activities for MCM #5

BMP/Task	Year	Measurable Goal	Status
5A Stormwater Facility BMP Inventory			
Maintain an updated electronic BMP database for reporting.	All	Provide a table and electronic spreadsheet of all BMPs brought online during the reporting period.	✓ Complete
5B Stormwater Facility BMP Maintenance Agreements and Guidelines			
Require the proper execute and recordation of BMP maintenance agreements.	All	Provide a sample of a properly executed and recorded BMP agreement.	✓ Complete
5C Implement Bay Act and Local VSMP Authority			
Continue to implement the Environmental Management Ordinance.	All	Comply with DEQ Bay Act reporting and review requirements and implement the ordinance.	✓ Complete
5D Stormwater Facility BMP Design Guidelines			
Require adherence to Virginia BMP Clearinghouse and Virginia BMP Handbook.	All	Ensure design is consistent with VSMP regulations and summarize any changes to standards.	✓ Complete
5E Public Stormwater BMP Facility Inspection and Maintenance			
Inspect public BMP facilities for proper operation at least once annually.	All	Document the number of BMPs inspected each year and provide summary information.	✓ Complete
5F Private Stormwater BMP Facility Inspection and Enforcement			
Inspect all BMP facilities for proper operation at least once during the permit period.	All	Document total number of inspections completed, and the number of enforcement actions, when applicable.	✓ Complete

BMP 5A VSMP Implementation

The City amended the EMO for consistency with the new VSMP regulations and maintained consistency with the Chesapeake Bay Act requirements. The City received provisional approval as a local VSMP authority effective July 1, 2014 and received full approval in November 2014.

The City continues to implement a stormwater management program, including design standards, that are compliant with the Chesapeake Bay Preservation Area Designation and Management Regulations

and the VSMP regulations, as incorporated in the EMO. Section 13-109 of the EMO, requires that development and redevelopment projects subject to VSMP Part II.B technical criteria conform to the design specifications of the Virginia BMP Clearinghouse for stormwater facility BMPs, and utilize the Virginia Runoff Reduction Method spreadsheet to demonstrate compliance with water quality and quantity requirements. Grandfathered projects and those meeting the "time limits" associated with coverage under the construction general permit are subject to the Part II. C technical criteria and may use stormwater facility BMPs previously approved by the City and adhere to the design guidelines in the Alexandria Supplement to the Northern Virginia BMP Handbook. The City has also adopted a Green Building Policy to encourage development to meet green building standards such as LEED certification or equivalent, which includes incentives to comply with stormwater management requirements by implement Low Impact Development (LID) or Green Infrastructure (GI) techniques.

The City adopted combination of homeowner outreach and education this is implemented for owners of stormwater facility BMPs on individual residential lots.

Measure of Effectiveness

A copy of the approval letter designating the City as a local VSMP authority and a copy of the City's adopted ordinance is provided in Appendix E. No updates to the MS4 Program Plan were deemed necessary.

BMP 5B Public Stormwater Facility Inspection and Maintenance

Pursuant to the general permit, the City inspects public facilities at least once every year. The inspections are performed according to the written policies and procedures entitled *Policies and Procedures for Post-Construction BMP Inspection and Maintenance* which can be found in Appendix E of the City's MS4 Program Plan. The City currently owns and operates a total of 116 stormwater facility BMPs. One public stormwater facility was unable to be properly accessed prior to submission of this report. All other public stormwater facilities were inspected during this permit year.

Measure of Effectiveness

A summary of inspection results is provided in Appendix E. Seventy-eight (78) facilities required maintenance based on the annual inspection. Ten (10) facilities that required maintenance, required "significant maintenance" as that which is defined as non-routine maintenance. Additional information about the significant maintenance can be found in Appendix E. No updates to the MS4 Program Plan were deemed necessary.

BMP 5C Private Stormwater Facility Inspection and Enforcement

Pursuant to the general permit, the City inspects privately-owned stormwater facilities at least once every five years. Per Section 13-109 of the EMO, facility owners must perform periodic inspection and required maintenance to ensure the long-term functioning of the facilities as originally designed to protect water quality. The inspections are performed according to the written policies and procedures entitled *Policies and Procedures for Post-Construction BMP Inspection and Maintenance* which can be found in Appendix E of the City's MS4 Program Plan. These policies and procedures were reviewed and updated in April 2019 as part of continuous improvement and for consistency with the current permit.

Measure of Effectiveness

One hundred and eight (108) total private stormwater facility inspections were completed this permit year, with eight (8) enforcement actions being sent out this permit year related to these inspections. Please note that additional enforcement actions may be taken in response to these inspections; however, these actions may not take place until the next reporting period since owners have 90 days to complete the maintenance. A list of the inspections and corresponding data is provided in Appendix E. No updates to the MS4 Program Plan were deemed necessary.

BMP 5D Stormwater Facility Inventory and Reporting

The City continues to use Microsoft Access to track all stormwater facilities and/or BMPs that were implemented to improve water quality. As required by Part I.E.5.d of the permit, tracked information includes:

1) Stormwater management facility or BMP type:
2) Stormwater management facility or BMPs location as latitude and longitude;
3) Acres treated by the stormwater management facility or BMP, including total acres, pervious acres, and impervious acres;
4) Date the facility was brought online (MM/YYYY). If the date brought online is not known, a date of June 30, 2005 will be used.
5) 6th Order Hydrologic Unit Code (HUC) in which the stormwater management facility is located;
6) Whether the facility stormwater management facility or BMP is owned or operated by the permittee or privately owned;
7) Whether or not the stormwater management facility or BMP is part of the permittee's Chesapeake Bay TMDL action plan required in Part II A or local TMDL action plan required in Part II B, or both;
8) If the stormwater management facility or BMP is privately owned, whether a maintenance agreement exists; and
9) The date of the permittee's most recent inspection of the stormwater management facility or BMP.

Measure of Effectiveness

During this permit year, 14 stormwater management facilities and/or BMPs were installed in the City to improve water quality. All required information for the new facilities brought online is provided in Appendix E. A map of the City's stormwater management facilities and/or BMPs is provided in Appendix E. No updates to the MS4 Program Plan were deemed necessary.

The City electronically reported the BMPs installed under the construction general permit using the construction general permit database during this reporting period.

The City electronically reported the BMPs installed this permit year (excluding the ones already submitted using the construction general permit database) using the DEQ BMP Reporting Warehouse.

BMP 5E Stormwater Facility Maintenance Agreements

The City continues to require the execution and subsequent recordation of Stormwater BMP Facilities Maintenance / Monitoring Agreement to ensure long term operation and maintenance of new BMPs per the EMO. In addition, staff has also created a BMP maintenance vendor list for use by facility owners and operators.

Measure of Effectiveness

A sample BMP maintenance agreement that was submitted during this permit year and a screen capture that the form may be downloaded from the City's website Appendix E. The City continues the program of mailing educational letters that include maintenance responsibilities to single-family property owners with on-lot BMPs. An example of the letter and sample maintenance information sent to single-family residential BMP owners during this permit year is also located in Appendix E. No updates to the MS4 Program Plan were deemed necessary.

3.6 Pollution Prevention and Good Housekeeping for Municipal Facilities (MCM #6)

For the purposes of this annual report, municipal facilities are those facilities owned or operated by the City.

The following table is a summary of activities for Minimum Control Measure #6 and their completion status. Additional detail is provided after the table and in Appendix F.

Table 11. Summary of Activities for MCM #6

BMP	Measurable Goal	Status
6A Written Pollution Prevention and Good Housekeeping Procedures		
Implement Standard Operating Procedures for Daily Operations	Document any updates to SOPs and any new SOPs.	✓ Complete (No updates to SOPs required)
6B Stormwater Pollution Prevention Plans for High-Priority Facilities		
Implement SWPPPs and annually review and add/remove as necessary	Document any new facilities requiring SWPPPs or any removed. Continue to implement SWPPs.	✓ Complete

6C Turf and Nutrient Management Plans		
Implement Turf and Nutrient Management Plans and annually review and add/remove as necessary	Document any new areas requiring turf and nutrient management plans or any removed. Continue to implement SWPPs.	✓ Complete
6D Prohibiting Deicing Agents with Urea		
Ensure that the City did not use deicing agents that included urea.	Statement that the City didn't using deicing agents that included urea.	✓ Complete
6E Contractor Controls and Oversight		
Ensure proper procedures and controls are implemented by City contractors.	Document any changes to process or procedures.	✓ Complete
6F Training		
Conduct yearly training to applicable employees. Training topics will rotate each year between recognizing illicit discharge and pollution prevention and good housekeeping.	A summary report on the required training, including a list of training events, the training date, the number of employees attending training and the objective of the training.	✓ Complete (Note: Due to the COVID-19 global health pandemic, in-person training was replaced with virtual training.)
6G Street Sweeping and Leaf Collection Programs		
Continue to implement the City's street sweeping and leaf collection programs.	Document lane miles swept and cubic yards of debris collected. Document the amount of leaves collected.	✓ Complete
6H Catch Basin and Inlet Cleaning Program		
Continue the City's catch basin and inlet cleaning program.	Document the number of catch basins and inlets cleaned.	✓ Complete
6I Employee Complaint Reporting Program		
Continue to implement the "Report a Problem" program.	Document ongoing implementation.	✓ Complete

6J Environmental Stakeholder Groups		
Participate in Environmental Stakeholder Groups	Presentation for WQWG meeting	✓ Complete

BMP 6A Written Pollution Prevention and Good Housekeeping Procedures

Part I.E.6.a of the permit requires the maintenance and implementation of written procedures for public facilities for best practices for stormwater pollution prevention. During the 2013-2018 permit cycle, the City developed standard operating procedures (SOPs) to minimize or prevent pollutant discharge from daily operations such as road, street, and parking lot maintenance; equipment maintenance; and the application, storage, transport, and disposal of pesticides, herbicides, and fertilizers.

The City continues to implement these SOPs and are utilized as part of the employee training program in accordance with Permit Part I.E.6.b. These SOPs will be reviewed once during this permit cycle to ensure they include up-to-date information and effective procedures.

Measure of Effectiveness

The SOPs for Daily Operations are included in Appendix F of the City's MS4 Program Plan for those applicable operations. No SOPs required updating during this permit year and no new SOPs were created however, the City anticipates several updates to the SOPs during PY3. No updates to the MS4 Program Plan were deemed necessary at this time. Changes are anticipated in PY3 for BMP 6A.

BMP 6B Stormwater Pollution Prevention Plans for High-Priority Facilities

During the 2013-2018 permit cycle, the City identified its high-priority municipal facilities that may require the development and implementation of a SWPPP. This list was further refined for those high-priority municipal facilities with a high potential for discharging pollutants. Also completed during the previous permit cycle, the City developed an inspection checklist to be used at municipal facilities. The checklist covers good housekeeping practices, material storage and handling, as well as maintenance practices. The checklist is included in the SWPPPs developed for applicable municipal facilities.

The City continues to maintain and implement the SWPPPs for the identified municipal facilities. Facilities implementing SWPPPs keep an updated copy onsite, and SWPPPs have been incorporated into the pollution prevention training given to municipal employees.

Measure of Effectiveness

The following table provides the list of the municipalities with SWPPPs along with other pertinent information. Upon review of the City's municipal facilities, no additional SWPPPs were developed or removed during the permit year. Periodic inspections continue to be completed and documented in the SWPPPs. No updates to the MS4 Program Plan were deemed necessary during this program year however, minor updates are anticipated during PY3 based on DEQ's audit findings received during PY3.

Table 12. Summary Public Facilities with SWPPPs

Facility	Facility Location	Site Activity	SWPPP Location
Middle Yard at 3220 Colvin Street	3220 Colvin Street	Equipment and Material Storage	3220 Colvin Street
Household Hazardous Waste & Electronics Recycling Center	3224 Colvin Street	Waste Storage and Transfer	Onsite materials storage shed
Equipment and Materials Storage	133 South Quaker Lane	Vehicle, Material and Equipment Storage	2900-B Business Center Dr. - Operations Office
Material Storage Yard	3130 Business Center Drive	Material and Waste Storage	2900-B Business Center Dr. - Operations Office
Field Operations Center	2900-A/B Business Center Drive	Vehicle, Material and Equipment Storage	Administration Desk for T&ES
Leaf Mulch Facility	4125 Eisenhower Avenue	Material Storage	3220 Colvin Street
Transportation Division Impound Lot	5249 Eisenhower Avenue	Vehicle Storage	3220 Colvin Street
Impound Lot	3000 Business Center Drive	Vehicle Storage	3220 Colvin Street
Vehicle and Equipment Maintenance Center	3550 Wheeler Avenue	Vehicle, Material and Equipment Storage	3550 Wheeler Avenue
Fuel Island	3400 Duke Street	Vehicle Fueling and Fuel Transfer	3550 Wheeler Avenue

BMP 6C Turf and Nutrient Management

Part I.E.6.i of the permit requires the maintenance and implementation of turf and landscape nutrient management plans (NMPs) that were developed during the 2013-2018 permit cycle. These plans were developed for municipal properties where nutrients were applied in acres that exceeded one acre contiguous.

The list of municipal lands where nutrient management plans are required and have been completed is presented below. This list includes the location and corresponding acreage for each plan and will be updated as needed.

Measure of Effectiveness

The City updated all of the NMPs in the 2016-2017 reporting period. The updated list and information for completed plans is presented below, which includes the location of the NMPs. The total acreage with approved NMPs is 60.6 acres.

Upon review of the City's municipal operations, no new locations that required turn and landscape NMPs were identified and none were removed. The plan expiration date was extended to June 30, 2020. These plans will be reviewed during the next permit year. The MS4 Program Plan was updated to include the revised plan expiration date.

Table 13. PY2 NMPs

Facility	Street Address	Latitude	Longitude	Acres	Date of Plan Expiration	Total
Armistead Boothe Field	519 Cameron Station Blvd	38°48'25.6"N	77°05'22.9"W	1.7	6/30/2020	2.87%
Armistead Boothe Park	519 Cameron Station Blvd	38°48'18.9"N	77°07'37.5"W	1.2	6/30/2020	1.97%
Ben Brenman Park	4800 Duke St.	38°48'30"N	77° 6'52"W	10.7	6/30/2020	17.57%
Duke St Dog Park	4657 Duke St	38°48'43.5"N	77° 6'45.8"W	1.1	6/30/2020	1.74%
Founders Park	351 North Union Street	38°48'27"N	77° 2'20"W	3.7	6/30/2020	6.06%
Four Mile Run Park	3700 Commonwealth Ave	38°50'24"N	77° 3'34"W	7.3	6/30/2020	12.07%
George Washington Middle School	1005 Mt. Vernon Ave	38°49'15.6"N	77°03'13.4"W	2.8	6/30/2020	4.64%
Haborside Park	487 S. Union St	38°47'58.8"N	77°02'28.5"W	1.3	6/30/2020	2.13%
Hensley Park	4200 Eisenhower Ave	38°48'12"N	77° 6'29"W	4.7	6/30/2020	7.67%
Luckett Park	3540 Wheeler Ave	38°48'26.3"N	77°05'22.8"W	1.3	6/30/2020	2.16%
Montgomery Park	901 North Royal Street	38°48'51"N	77° 2'27"W	1.1	6/30/2020	1.78%
Oronoco Park	100 Madison Street	38°48'40"N	77° 2'23"W	3.8	6/30/2020	6.25%
Potomac Yards Park	2501 Potomac Ave	38°49'44.2"N	77° 2'52.6"W	5.5	6/30/2020	9.09%
Rivergate Park	2 Montgomery Street	38°48'46"N	77° 2'17"W	2.8	6/30/2020	4.54%
Simpson Park	426 E. Monroe Ave	38°49'18"N	77° 3'4"W	5.3	6/30/2020	8.80%
West Point	1 Oronoco St.	38°48'12"N	77° 2'21"W	3.3	6/30/2020	5.45%
Windmill Hill Dog Park	501 South Union Street	38°47'58"N	77° 2'30"W	3.2	6/30/2020	5.21%
			Total	**60.6**		**100.0%**

BMP 6D Prohibiting Deicing Agents with Urea

Nutrients, if improperly applied, have the potential to pollute the local waterways, the Potomac River and the Chesapeake Bay. Part I.E.6.k of the permit prohibits the use of deicing agents containing urea or other forms of nitrogen or phosphorus to parking lots, roadways, and sidewalks, or other paved surfaces.

Measure of Effectiveness

The City did not apply deicing agents containing urea or other forms of nitrogen or phosphorus to roadways, parking lots, sidewalks, or other paved surfaces during this reporting period. No updates to the MS4 Program Plan were deemed necessary.

BMP 6E Contractor Controls and Oversight

The City continues to ensure that contractors working on behalf of the City follow procedures and employ required control measures to ensure that operations do not contribute to stormwater pollution. SOPs for pesticide and herbicide application place requirements on contractors. City employees charged with oversight of City capital projects receive annual water quality training. City capital improvement projects include pollution prevention language. The City will continue to implement this BMP and report on changes annually.

Measure of Effectiveness

During the permit year, the City continued to implement SOPs (described under BMP 6A), required necessary permits and certifications, had necessary language in contracts, and provided water quality training to City employees charged with oversight of City capital projects. No updates to the MS4 Program Plan were deemed necessary.

BMP 6F Training

Staff whose normal duties require a considerable amount of field work play a valuable role in identifying and addressing illicit discharges. Employees performing applicable duties shall be trained in recognizing and reporting illicit discharges no less than once every 24-months. Training provides the appropriate tools for field staff to recognize, document relevant information and report the incident for follow up by the appropriate staff.

City staff engages in daily activities that have the potential to adversely impact water quality. The likelihood of these impacts occurring may be minimized or avoided by providing staff training on pollution prevention and good housekeeping. Employees performing applicable duties shall be trained in pollution prevention and good housekeeping no less than once every 24-months.

In addition, employees hired by the City who apply pesticides and herbicides shall be trained or certified with the Virginia Pesticide Control Act. Certification by the Virginia Department of Agriculture and Consumer Services (VDACS) Pesticide and Herbicide Applicator program shall constitute compliance with this requirement.

The City's employees and contractors serving as plan reviewers, plan inspectors, program administrators, construction site operators and those implementing the City's stormwater program will obtain and maintain the appropriate certification as required under the Virginia Erosion and Sediment Control Law and the Virginia Stormwater Management Act. The employees whose duties include emergency response will be properly trained in spill reporting which may be satisfied through a larger emergency response training program.

Measure of Effectiveness

The SWM Division continues to provide annual training in compliance with the permit and the City's MS4 Program Plan. However, due to the sudden on-set of the global COVID-19 pandemic, training plans shifted from an in-person event to virtual training opportunities and other electronic means of training City staff due to changes in staff schedules, social distancing, and prioritizing health and safety of our employees. As indicated in the MS4 permit plan, this program year's (PY2) training focused on Recognizing and Reporting Illicit Discharges Training. Training was to focus on 135 city staff as follows: T&ES Street Maintenance (16); Sewer Maintenance (22); Refuse Collection (17); Construction and Inspection (6); RPCA Park Ops staff (52); and Code Administration (22). Training began in June and continued through September 2020, which is outside of the program year. Ultimately, all required field staff were trained on IDDE and other staff were trained on Recognizing and Reporting Illicit Discharges Training. The approach taken recognizes that field staff do not always have access to computers and virtual training environments but do have access to the City-issued mobile phones to watch a video on IDDE and congregate in muster rooms prior to shift work. The range of staff reached through these various trainings is approximately 300 which takes into consideration any potential cross-training. Furthermore, training was shared in the T&ES lobby of 2900 Business Center Drive on the television for several weeks over the summer. Despite the shift from in-person to online training, no updates to the MS4 Program Plan were deemed necessary.

Table 14. Summary of IDDE Training

Date	Group	Subject/Mechanism	Location	# Reached
6/29/2020	Code Administration	Recognizing and Reporting Illicit Discharges Training via MS Teams Meeting	MS Teams Meeting	30
7/6/2020 – 7/24/2020	T&ES Street Maintenance; Sewer Maintenance; Refuse Collection	Recognizing and Reporting Illicit Discharges Training voice-over PowerPoint Presentation	Muster Room Televisions	55*
7/24/2020	RPCA, General	Recognizing and Reporting Illicit Discharges Training email with link to training video	Email	82
6/22/2020	T&ES, General	Recognizing and Reporting Illicit Discharges Training email with link to training video	Email	187*
9/18/2020	T&ES Construction and Inspection	Illicit Discharge – A Grate Concern and How to Spot and Report Storm Water Pollution	In-Person	5

Date	Group	Subject/Mechanism	Location	# Reached
8/12/2020	T&ES Impound Lot Staff	Recognizing and Reporting Illicit Discharges Training voice-over PowerPoint Presentation	Virtual	3*
9/17/2020	T&ES Traffic Operations Staff	Recognizing and Reporting Illicit Discharges Training voice-over PowerPoint Presentation	Virtual	2*

*Possible cross-training took place.

BMP 6G Street Sweeping and Leaf Collection Programs

The City continues to implement a City-wide street sweeping program to remove possible sources of nutrients, sediment, and impacts to biological and chemical oxygen demand in order to protect local waterways, the Potomac River and the Chesapeake Bay. Additionally, collected leaves are turned to mulch and provided to for use on residential lawns; which decreases the use of fertilizers.

Measure of Effectiveness

The City swept approximately 2,351 lane miles this permit year. The amount of street lane miles swept changes slightly each year depending on weather conditions and other factors. During this permit year, the street lane miles swept was reduced due to the global COVID-19 pandemic. No updates to the MS4 Program Plan were deemed necessary.

The City's Curbside Leaf Collection program performed the following:

1. Distributed approximately 67,500 biodegradable bags to various locations throughout city facilities.
2. Collected 22,722 biodegradable bags and collected 14,582 cubic yards of curbside vacuumed leaves to be recycled for mulch distribution spring 2020.
3. There were 44,778 biodegradable bags uncollected or approximately 34%.
4. Total cubic yards collected: 14,582
5. Total tons of leaf bags collected: 110.8 tons

The number of bags distributed and collected increased in this permit year by over 6,000 bags as compared to last permit year. The volume of leaves vacuumed from the curbside decreased by approximately 950 cubic yards from last year. The number of uncollected bags decreased by 15%.

BMP 6H Catch Basin and Inlet Cleaning Program

The City has a long-standing program to inspect and clean stormwater catch basins and inlets. The catch basin and inlet cleaning program is meant to both reduce spot flooding and drainage problems as well as to prevent materials, including floatables and vegetative debris captured in inlets, from continuing to local streams. Catch basin cleaning varies year by year depending on the weather.

Measure of Effectiveness

The City cleaned approximately 1,700 catch basins and inlets during this permit year. No updates to the MS4 Program Plan were deemed necessary.

BMP 6I Employee Complaint Reporting

The City continues to implement the "Report a Problem" program to empower employees to report problems, to include illicit discharges or issues with the functioning of City assets. The program provides a way of reporting problems associated with City infrastructure, including stormwater management.

Measure of Effectiveness

A screen shot of the "Report a Problem" program from the City's intranet is provided in Appendix F. No updates to the MS4 Program Plan were deemed necessary.

BMP 6J Environmental Stakeholder Groups

The City receives input on the stormwater program from several stakeholder groups including the Environmental Policy Commission (EPC), the Water Quality Work Group (WQWG), the Fire Department's Environmental and Industrial Use Unit (EIU), and the Eco-City Steering Committee.

The EPC is appointed by the City Council and makes recommendations on environmental issues, including stormwater management. The City Manager has established two internal stakeholder groups to work on stormwater issues and make policy decisions to ensure regulatory compliance and shape the stormwater program. The first group, the Water Quality Steering Committee, transitioned into the Eco-City Alexandria Steering Committee during the final reporting period of the 2013-2018 permit and is comprised of deputy city managers, department heads, and staff from T&ES-IEQ, and is charged with making policy decisions and setting the course for the City's environmental programming under the Eco-City Alexandria initiative, which include Water Resources. The second group, the Water Quality Work Group (WQWG) is an internal stakeholder group comprised of interdepartmental City staff with the deputy director of IEQ as the chair, the division chief as alternate, and other supervisory level staff. The WQWG's mission is to develop and coordinate the City's response across various City departments to MS4 permit requirements, including the Chesapeake Bay TMDL. The WQWG is charged with supporting development of policy, programs and plans to administer the local VSMP program and the MS4 general permit. The EIU acts as the lead for coordination of environmental issues, including water quality investigation, enforcement, and documentation.

Measure of Effectiveness

During PY2, Stormwater Management was on the EPC agenda to provide an update on the program; however, the meeting was cancelled. Stormwater Management will present during PY3. Appendix F contains the presentation from the WQWG meeting that took place in February 11, 2020. No updates to the MS4 Program Plan were deemed necessary.

3.7 Evaluation of MS4 Program Implementation

In accordance with Part I.D.2.e of the permit, the City has reviewed and assessed program implementation, including a review of each MCM and corresponding BMPs established to meet the requirements of the City's permit and have found them to be appropriate and effective. During the program year, the following updates have been made to the MS4 Program Plan:

1. Updated the end date for the Nutrient Management Plan Expiration date from 3/30/2020 to 6/30/2020.

2. Updated the draft Bay TMDL Action Plan to the final Plan.

3. Included the final local TMDL Action Plans for Bacteria and PCBs.

4. Updated *Call.Click.Connect* to Alex311 throughout.

Updates stemming from the MS4 Audit will be incorporated into the MS4 Program Plan and reported through the PY3 Annual Report.

3.8 Chesapeake Bay TMDL

Finalized in December 2010 by the United States Environmental Protection Agency (EPA), the Chesapeake Bay TMDL and the associated Watershed Implementation Plans (WIPs) developed by the Commonwealth of Virginia, set limits on nitrogen, phosphorus and sediment entering the Bay. The 2013 – 2018 general permit included new special conditions to address the Chesapeake Bay TMDL.

In January 2016, the City received official approval the City's final Chesapeake Bay TMDL Action Plan for 5% Reductions from DEQ. The following table was submitted in DEQ's approval letter documenting their concurrence and approval of the City's strategies that would achieve over 39% of the total annual reductions for each pollutant of concern.

All strategies in the Phase 1 Action Plan to achieve over 39% reduction have been implemented.

- The Eisenhower Pond 19 has been completed and was reported with the permit year 2015-2016 Annual Report.
- The Four Mile Run Urban Stream Restoration Project was substantially complete in the summer of 2016 and brought online during permit year 2016-2017.
- The Windmill Hill Living Shoreline, although not documented in the Phase 1 Action Plan, was substantially complete during permit year 2017-2018.
- Several retrofits on City properties were completed in this permit cycle as documented in the Phase 2 Action Plan.
- Construction of the Lake Cook Retrofit project was substantially complete in September 2018 or during the beginning of permit year 2018-2019. The project was awarded Stormwater Local Assistance Fund (SLAF) grant funding from DEQ.

The 2018-2023 general permit builds on the previous permit cycle and incorporates pollution reduction targets with a total of 40% reductions in the L2 Scoping loads required by the end of this permit cycle (2023). As a condition in the permit, the means and methods to achieve the 40% reductions must be included in the City's Phase 2 Chesapeake Bay TMDL Action Plan. The Phase 2 Action Plan was submitted by October 31, 2019. The final Phase 2 Action Plan can be found in Appendix G and it will be incorporated into the update of the MS4 Program Plan. In accordance with the permit, a public comment period on the draft was implemented in August 2019, with the final draft accepted by the City Council on September 24, 2019, and the final Action Plan submitted no later than October 31, 2019.

The Phase 2 Action Plan documents one additional project to meet the 40% pollution reduction targets – the Ben Brenman (Cameron Station) Pond Retrofit project. This project also received SLAF grant funding and construction began in Winter 2018/2019 and is considered substantially complete as of June 2020. Table 16 provides a summary of the required reductions per permit cycle as of the 2018-2023 MS4 General Permit specific to Alexandria, VA, as indicated in the Phase 2 Chesapeake Bay Action Plan.

Table 15. Summary of Required Reductions by Permit Cycle

Phase	Permit Cycle	Required Reduction (%)	Nitrogen (TN) (lbs/yr)	Phosphorus (TP) (lbs/yr)	Suspended Solids (TSS) (lbs/yr)
1	2013-2018	5%	380	50	43,097
2	2018-2023	35%	2,659	351	301,678
3	2023-2028	60%	4,558	602	517,162
Total		**100%**	**7,597**	**1,004**	**861,937**

As documented in this annual report, the City has programs for catch basin cleaning and street sweeping. In addition, RPCA has been implementing a tree planting program. Since Expert Panel Reports have been developed to credit these strategies, the City will be working on extracting the necessary data from our programs to compute the related pollutant reductions in accordance with the Expert Panel Reports in the near future.

In accordance with the Phase 1 and Phase 2 Action Plans, BMPs installed as part of redevelopment projects have been certified, documented, and uploaded to the DEQ BMP Warehouse. A list of BMPs installed during the permit year is included in Appendix E.

The progress made during this reporting period toward the Chesapeake Bay required pollutant reductions are presented in the table below.

Table 16. Progress during PY2 – Individual Facilities/Retrofits (July 1, 2019 – June 30, 2020)

Project	TN Reductions (lbs/yr)	Percent of TN 100% Goal	TP Reductions (lbs/yr)	Percent of TP 100% Goal	TSS Reductions (lbs/yr)	Percent of TSS 100% Goal
Development SWM Facilities	5	0.1%	6	0.6%	2,843	0.3%

Ben Brenman Retrofit	946	12%	151	15%	87,734	10%

The City's overall progress toward meeting the Chesapeake Bay required pollutant reductions are presented in the table below.

Table 17. Cumulative Progress by Permit Year (2019 – Current)

Cumulative Progress	TN Reductions (lbs/yr)	Percent of TN 100% Goal	TP Reductions (lbs/yr)	Percent of TP 100% Goal	TSS Reductions (lbs/yr)	Percent of TSS 100% Goal
As of June 30, 2018	2,690	35%	402	40%	361,990	42%
As of June 30, 2019	4,314	57%	571	57%	498,151	58%
As of June 30, 2020	5,265	69%	728	72%	588,728	68%

Progress is being made on three stream restoration projects which total 3,750 linear feet of urban stream: (1) Lucky Run; (2) Strawberry Run; and (3) Taylor Run. In total, the City of Alexandria is investing over $4.47 million in these restoration projects and has received over $3.72 million in matching grant funds from Stormwater Local Assistance Fund (SLAF) to total $8.2 million in restoration impact.
The stream restorations will benefit local water quality; enhance aesthetics and safety of natural areas; remove invasive plants and plant natives to enhance habitat for urban wildlife; and protect sanitary sewer and stormwater infrastructure investments.

3.9 Local TMDLs

The City has four existing TMDLs with an approved WLA for the MS4 area, two of which were approved prior to July 2008 and two of which were approved between July 2008 and June 2013.

A TMDL for bacteria related to fecal coliform was approved in 2004 for the non-tidal portion of Four Mile Run, and in 2007 a TMDL for PCBs was approved for the Tidal Potomac watershed. Given that these TMDLs were approved prior to July 2008, TMDL Action Plans were completed by June 30, 2015 and were submitted with the permit year 2015-2016 Annual Report.

In 2010, the SWCB issued approval of bacteria TMDLs for Tidal Four Mile Run, and the Hunting Creek, Cameron Run, and Holmes Run watersheds. In both recent TMDLs, bacterial water quality is based on levels of *E. coli*. Since these TMDLs were approved between July 2008 and June 2013, the corresponding TMDL Action Plans were completed by June 30, 2016 and were submitted with the 2016-2017 annual report. Based on guidance and conversations with DEQ staff, the City developed a comprehensive Bacteria TMDL Action Plan that addresses bacteria impairments for those affected watersheds. Beginning with the Non-Tidal Four Mile Run TMDL Action Plan which was due by June 30, 2015, the City incorporated the successive TMDLs for Hunting Creek, Cameron Run, and Holmes Run to create a comprehensive Bacteria TMDL Action Plan.

In accordance with the permit, these Local TMDL Action Plans were updated prior to May 2020 (18 months after the permit effective date). The permit also has a requirement for plans to be developed for TMDLs approved by EPA between July 1, 2013 and June 30, 2018 that have WLAs no later than May 2021 (30 months after permit effective date); however, the City does not have any new TMDLs that meet this criteria. Part II.B.3 of the permit provides a list of items to be included in each Local TMDL Action Plan. Based on the type of TMDL (bacteria, sediment, phosphorus, nitrogen, or PCBs), there is list of different strategies the City must choose from to address the impairments.

The City of Alexandria's Bacteria TMDL Action Plan was updated in 2020 after a 15-day public comment period (no comments were received). This Action Plan is found in Appendix G. This updated action plan continues to address the management of bacteria throughout our 15 square mile jurisdiction. Overall, the narrative was updated to reflect the 2018-2023 MS4 general permit requirements and referenced the 2019 MS4 Program Plan. As of the last update in 2016, Virginia DEQ released the Final 2018 305(b)/303(d) Water Quality Assessment Integrated Report (2018 IR). The 2018 IR listed Cameron Run as being impaired which was a change from past reports. Cameron Run (VAN-A13-CAM01A04) was delisted in the Final 2014 305(b)/303(d) Water Quality Assessment Integrated Report and was found as supporting in the Final 2016 305(b)/303(d) Water Quality Assessment Integrated Report. In 2017, the Virginia General Assembly passed a new law requiring the remediation of the City's combined sewer outfalls by July 1, 2025. In partnership with Alexandria Renew Enterprises, the City submitted a Long-Term Control Plan to VDEQ in 2018 which calls for the construction of a system of underground tunnels to convey combined sewage to the wastewater treatment facility. This update was included due to its potential positive impact to bacteria loads in our local waterways through the ultimate reduction in CSS overflows by 2025. The plan was updated to reflect the change from *Call.Click.Connect* to Alex311. The plan includes reference to the new Environmental Action Plan 2040, the 2018 Memo to Industry on the use of manufactured/proprietary SMFs, and updates on our local stormwater projects.

The City of Alexandria's Tidal Potomac PCB TMDL Action Plan was updated in 2020 after a 15-day public comment period (no comments were received). This Action Plan is found in Appendix G
. The City continues to address the management of PCBs throughout the 15 square mile City. Overall, the narrative was updated to reflect the 2018-2023 MS4 general permit requirements and referenced the 2019 MS4 Program Plan. The plan was updated to reflect the change from *Call.Click.Connect* to Alex311. The City evaluated the most current EPA PCB Transformer Registration Database to determine if any municipal properties are registered sites, indicating the presence and location of PCB-containing transformers that may be located on municipal properties, and found none. The narrative explains that the SWPPPs for public facilities were developed after the site review was performed which was during the 2017 - 2018 reporting period. Site inspections associated with the development and implementation of SWPPPs for identified municipal facilities began during the 2017 - 2018 reporting period and are ongoing based on the City's internal implementation schedule.

Actions taken pursuant to these updated TMDL action plans are in alignment with the education and outreach and public participation sections of the MS4 Program Plan and are included in this Annual Report under MCM #1 and #2 for pet waste (bacteria). In addition, the City developed best management practices regarding BMPs as documented in the June 30, 2015 Tidal Potomac PCB TMDL Action Plan. The Action Plan is currently being implemented and includes the following BMPs:

1. City will include standard condition language for all site plan (DSP and DSUP) requiring a site characterization for PCBs during the redevelopment of a property where PCBs have been historically used or stored; or during the redevelopment of a property that falls into a DEQ identified high risk category for PCBs. The language was updated in permit year 2015-2016 and was included in all site plan reviews, placing the onus on the developer to perform due diligence; and is reviewed by the City.
2. The PCB brochure was developed (updated during permit year 2014-2015) that educates about residents and development community about PCBs can be found on the web site and were placed at City Hall for the public to obtain. A screen shot of the website and the brochure can be found in Appendix A.

4 Results of Information Collected and Analyzed

No information, including monitoring data, was required to be collected or analyzed under the City's permit.

5 MS4 Program Regional Efforts and Agreements

The City continues to participate in with other localities in the Northern Virginia Regional Commission's Clean Water Partners to conduct regional public education and outreach activities, as discussed in Section 3.1. A copy of the Clean Water Partners Agreement can be found in Appendix A of the City's MS4 Program Plan. The City does not rely on other government entities to satisfy permit obligations.

6 Approval Status of Qualifying Local Programs

The City relies on implementation of the Erosion and Sediment Control Ordinance, mandated by the Virginia Erosion and Sediment Control Regulations (VESCR), to help satisfy Minimum Control Measure #4 - Construction Site Stormwater Runoff Control. During permit year 2014-2015, the City's Erosion and Sediment Control (E&SC) Ordinance was reviewed and revised for consistency with amendments to the Virginia Stormwater Management Act and the Virginia Stormwater Management Program (VSMP) Regulations, and the renumbering of these, as well as the Virginia Erosion and Sediment Control Law (VESCL) and VESCR when administration of these programs was shifted from DCR to DEQ. The adoption of amendments to the City's E&SC ordinance during permit year 2014-2015 are discussed in BMP 4A.

In addition, the City relies on implementation of the EMO, mandated by the Virginia Chesapeake Bay Preservation Area Designation and Management Regulations, and the VSMP regulations as incorporated into the EMO, to help satisfy Minimum Control Measure #5 - Post Construction Stormwater Management.

The City's Erosion and Sediment Control Program has been reviewed and found consistent by the Virginia Soil and Water Conservation Board. In addition, the Chesapeake Bay Local Assistance Board

(now superseded by the Virginia Soil and Water Conservation Board) has also found the City's Environmental Management Ordinance to be fully consistent with state regulations.

The City's approved VSMP Local Stormwater Management Program application included amendments to the EMO Ordinance for consistency with the new VSMP regulations and maintained the Chesapeake Bay Act requirements. The City received provisional approval as a local VSMP authority effective July 1, 2014 and received full approval in November 2014. Documentation of approval is included in Appendix E.

7 Contact Information

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8 Appendicies